AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application.

Claims 3, 15, 24 and 25 were previously canceled without prejudice or disclaimer.

Listing of Claims:

1. (Currently Amended) A method, comprising:

inputting a code division multiple access signal received through a radio channel to a searcher; and

processing the received signal in the searcher to obtain a multi-path profile of the radio channel, where processing comprises at least partially removing an effect of ~~at least one of~~ a transmit filter ~~or~~ and a receive filter on the multi-path profile, where at least partially removing comprises passing the received code division multiple access signal through a filter selected to have a filter characteristic that approximates an inverted amplitude or power response of ~~the at least one of~~ the transmit filter ~~or~~ and the receive filter.

2. (Original) A method as in claim 1, further comprising outputting the multi-path profile to a controller for use in making demodulator finger assignments.

3. (Canceled)

4. (Previously Presented) A method, comprising:

inputting a code division multiple access signal received through a radio channel to a searcher; and

processing the received signal in the searcher to obtain a multi-path profile of the radio channel, where processing comprises at least partially removing an effect of at least one of a transmit filter or a receive filter on the multi-path profile, wherein said at least partially removing comprises passing the received code division multiple access signal through a

processing unit that uses a least squares criterion to derive the radio channel multi-path profile x from a searcher profile y, where $y = F \cdot x + v$, where v is a noise vector and F is a transmit/receive matrix.

5. (Original) A method as in claim 4, where vector x is derived as $x=(F^T \cdot F)^{-1} \cdot F^T \cdot y$, where T denotes a transpose operation and -1 denotes an inverse matrix operation.

6. (Original) A method as in claim 5, further comprising adding a pre-whitening term to stabilize the inverse as $x=(F^T \cdot F + \text{epsilon} \cdot I)^{-1} \cdot F^T \cdot y$.

7. (Original) A method as in claim 4, using L1 norm instead of L2 norm in the least squares derivation.

8. (Original) A method as in claim 1, where at least partially removing is performed by searcher hardware.

9. (Original) A method as in claim 1, where at least partially removing is performed by a data processor that is external to the searcher.

10. (Previously Presented) An apparatus comprising:

a receiver front end configured to receive a code division multiple access signal from a radio channel; said receiver front end comprising at least one receiver filter; and

a deconvolution searcher block having an input coupled to an output of the receiver front end for inputting a received signal and an output for outputting a digital representation of a radio channel multi-path profile to a control function, said deconvolution searcher block comprising a unit configured to process the received signal to at least partially remove an effect of at least said receiver filter on the multi-path profile, the unit comprising a filter having a filter characteristic that approximates an inverted amplitude response of at least said receiver filter.

11. (Previously Presented) The apparatus as in claim 10, where said unit configured to process the received signal also at least partially removes an effect of a transmitter filter on the multi-path profile.

12. (Previously Presented) The apparatus as in claim 11, where said receiver is located at a mobile station, and where a transmitter comprising said transmitter filter is located at a base station.

13. (Previously Presented) The apparatus as in claim 11, where said receiver is located at a base station, and where a transmitter comprising said transmitter filter is located at a mobile station.

14. (Previously Presented) The apparatus as in claim 10, where said control function uses the multi-path profile when making demodulator finger assignments.

15. (Canceled)

16. (Previously Presented) The apparatus as in claim 11, where said unit of said deconvolution searcher block comprises a filter having a filter characteristic that approximates an inverted response of said receiver filter and said transmitter filter.

17. (Previously Presented) An apparatus, comprising:

a receiver front end configured to receive a code division multiple access signal from a radio channel; said receiver front end comprising at least one receiver filter; and

a deconvolution searcher block having an input coupled to an output of the receiver front end for inputting a received signal and an output for outputting a digital representation of a radio channel multi-path profile to a control function, said deconvolution searcher block comprising a unit configured to process the received signal to at least partially remove an effect of at least said receiver filter on the multi-path profile, where said unit is further configured to at least partially remove an effect of a transmitter filter on the multi-path profile and to use a least squares criterion to derive the radio channel multi-path profile x from a

searcher profile y, where $y = F \cdot x + v$, where v is a noise vector and F is a transmit/receive matrix.

18. (Previously Presented) The apparatus as in claim 17, where vector x is derived as $x=(F^T \cdot F)^{-1} \cdot F^T \cdot y$, where T denotes a transpose operation and -1 denotes an inverse matrix operation.

19. (Previously Presented) The apparatus as in claim 18, further comprising adding a pre-whitening term to stabilize the inverse as $x=(F^T \cdot F + \text{epsilon} \cdot I)^{-1} \cdot F^T \cdot y$.

20. (Previously Presented) The apparatus as in claim 17, using L1 norm instead of L2 norm in the least squares derivation.

21. (Previously Presented) A mobile station, comprising:

a control function;

a receiver comprising a receiver front end configured to receive a code division multiple access signal from a radio channel, said receiver front end comprising at least one receiver filter;

a searcher having an input coupled to an output of the receiver front end for inputting a received signal and having an output for outputting a digital representation of a radio channel multi-path profile to said control function; and

a unit configured to at least partially remove, at least partially via deconvolution, an effect of at least said receiver filter on the multi-path profile, where said unit comprises a filter having a filter characteristic that approximates an inverted response of at least said receiver filter.

22. (Previously Presented) A mobile station as in claim 21, where said unit is further configured to at least partially remove an effect of a base station transmitter filter on the multi-path profile.

23. (Previously Presented) A mobile station as in claim 21, where said control function is configured to use the multi-path profile when making demodulator finger assignments.

24-25. (Canceled)

26. (Previously Presented) A mobile station, comprising:

a control function;

a receiver comprising a receiver front end configured to receive a code division multiple access signal from a radio channel, said receiver front end comprising at least one receiver filter;

a searcher having an input coupled to an output of the receiver front end for inputting a received signal and having an output for outputting a digital representation of a radio channel multi-path profile to said control function; and

a unit configured to at least partially remove, at least partially via deconvolution, an effect of at least said receiver filter on the multi-path profile, said unit comprising a processor that is configured to use a least squares criterion to derive the radio channel multi-path profile x from a searcher profile y, where $y = F \cdot x + v$, where v is a noise vector and F is a transmit/receive matrix.

27. (Original) A mobile station as in claim 26, where vector x is derived as $x=(F^T \cdot F)^{-1} \cdot F^T \cdot y$, where T denotes a transpose operation and -1 denotes an inverse matrix operation.

28. (Previously Presented) A mobile station as in claim 27, wherein the unit is further configured to add a pre-whitening term to stabilize the inverse as $x=(F^T \cdot F + \text{epsilon} \cdot I)^{-1} \cdot F^T \cdot y$.

29. (Previously Presented) A mobile station as in claim 26, wherein the unit is configured to use L1 norm instead of L2 norm in the least squares derivation.

30. (Original) A mobile station as in claim 22, where said unit is implemented in searcher hardware.

31. (Original) A mobile station as in claim 22, where said unit is implemented in control function software.

32. (Currently Amended) An apparatus comprising a searcher and a filter, configured to

input a code division multiple access signal received through a radio channel to the searcher; and

process the received signal in the searcher to generate output data for a finger assignment algorithm that represents a multi-path profile of the radio channel, where processing comprises passing the received code division multiple access signal through the filter selected to have a filter characteristic that approximates an inverted response of ~~at least one of~~ a base station transmit filter ~~or~~ and at least one mobile station receive filter so as to reduce an occurrence of multi-path sidelobes in the output data.

33. (Previously Presented) An apparatus comprising a processor unit, a receiver and a searcher, configured to

receive as a received signal a code division multiple access signal through a radio channel; and

process the received signal in the searcher to generate output data for a finger assignment algorithm that represents a multi-path profile of the radio channel, where processing comprises passing the received code division multiple access signal through a processor unit that operates in accordance with a least squares criterion to derive the radio channel multi-path profile x from a searcher profile y, where $y = F \cdot x + v$, where v is a noise vector and F is a transmit/receive matrix, so as to reduce an occurrence of multi-path sidelobes in the output data.

34. (Previously Presented) Circuitry, comprising:

a searcher comprising an input configured to receive a code division multiple access signal from a receiver front end, the searcher further comprising an output configured to output a digital representation of a radio channel multi-path profile of the received code division multiple access signal, said searcher further comprising a deconvolution processing block configured to process the received code division multiple access signal to at least partially remove an effect of at least a receiver filter in the receiver front end on the multi-path profile, the deconvolution processing block comprising a filter having a filter characteristic that approximates an inverted amplitude response of at least said receiver filter.

35. (Previously Presented) Circuitry as in claim 34, where said deconvolution processing block is also configured to process the received code division multiple access signal to at least partially remove an effect of a transmitter filter on the multi-path profile.

36. (Previously Presented) Circuitry as in claim 34, where said circuitry is an integrated circuit.

37. (Previously Presented) Circuitry as in claim 35, where the filter has a filter characteristic that approximates an inverted response of said receiver filter and said transmitter filter.

38. (Previously Presented) A method as in claim 1, where the filter is selected to have a filter characteristic that approximates an inverted amplitude or power response of the transmit filter and the receive filter.

39. (Currently Amended) A memory storing a program that when executed by a processor results in actions comprising:

receiving as a received signal a code division multiple access signal through a radio channel; and

processing the received signal to obtain a multi-path profile of the radio channel, where processing comprises at least partially removing an effect of ~~at least one of~~ a transmit filter ~~or~~ and a receive filter on the multi-path profile.

40. (Previously Presented) The memory of claim 39 wherein the processing uses a least squares criterion to derive the radio channel multi-path profile x from a searcher profile y, where $y = F \cdot x + v$, where v is a noise vector and F is a transmit/receive matrix.

41. (Previously Presented) The memory of claim 40 where the actions further comprise outputting the multi-path profile of the radio channel to a finger assignment unit that represents a multi-path profile of the radio channel.